

Abstract

A silicon casting apparatus for producing polycrystal silicon ingot by heating a silicon melt (8) held in a mold (4) from above by a heater (3) and cooling it from below while changing the heat exchange area of a heat exchange region (HE), defined between a pedestal (5) having the mold (4) placed thereon and a bottom cooling member (6), in such a manner as to keep pace with the rise of the solid-liquid interface of the silicon melt (8), thereby causing unidirectional solidification upward along the mold (4); and a method of producing polycrystal silicon ingot using such apparatus. According to this production method, the temperature gradient given to the silicon melt (8) can be maintained at constant by adjusting the heat exchange area, so that polycrystal silicon ingot having good characteristics can be produced with good reproducibility.